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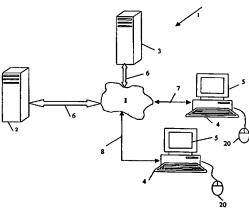
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(54) Title: SIGNALLING



(57) Abstract: A signalling system includes a gaming server operable under program control to regulate the progress of a multiplayer game in accordance with game play decisions made, in turn, by each of the participating players, a user terminal for each player, and a display monitor associated with each user terminal. Each user terminal is operable by a player to access the gaming server along a communication channel and to make game play decisions. Each display monitor is responsive to communication from the gaming server to display to a player an indicium, in the form of a graphic icon, representing a status of that player's participation in the game. The status is a pending state where that player is next in turn to make a game play decision, and a completed state where the player is not next in turn to make a game play decision. Each display monitor also displays a separate indicium for each participating player, each indicium representing a status of the participation in the game of a respective one of the participating players. Each graphic icon represents the status of a player's participation in the game by means of a colour, the pending state being represented by a red colour of the graphic icon, and the pending state being represented by a red colour of the graphic icon, and the completed state being represented by a green colour. Each graphic icon has a corresponding nameplate used for identifying a respective one of the participating players.



SIGNALLING

5 Field of the Invention

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This invention relates to a signalling system and, more particularly, to a signalling system that can be used in conjunction with a multiplayer online game. The invention extends to a signalling method for use in conjunction with a multiplayer online game.

Background to the Invention

The advent of online portals such as CompuServe, Prodigy, America Online ("AOL") and the subsequent emergence of the Internet as a public communication channel have led to an explosion of on-line multiplayer games. A common feature of such games is that participants in such games are remote from each other and not in direct communication with each other. Each participant in the game monitors the progress of each turn of the game and the actions of the other participating players on a corresponding player terminal, usually incorporating a display screen.

One example of such an online multiplayer game is that of poker, which is nominally a zero-sum game insofar as, in each turn of the game, a gain of a winner is equal to accumulated losses of the other players in the game. It is, however, also known for a party who arranges or hosts a game of poker to levy a commission ("a rake") on the cumulative amount wagered in the turn of the game, in order to obtain revenue.

A characteristic of such online multiplayer games is that a turn of the game usually involves one or more game-play decisions that must be taken by each player in turn. Where the participants in the game are remote from each other, it is possible that a particular player may inadvertently hold up progress of the turn of the game by failing to timeously take a required game play decision.

Such a circumstance may arise because a player may simply not be aware that he needs to make a game play decision, and that he is holding up progress of the game. It is a common feature of such online multiplayer games to have a watchdog feature that results in certain default game play decisions being taken on behalf of a player where that player holds up progress of the game for a time that exceeds a predetermined timeout period. It will be appreciated that this watchdog feature can adversely affect a player's performance in the online multiplayer game.

The problem is exacerbated in a game of poker, where game play decisions to be made by a player can be quite complex and require much consideration from the player

Object of the Invention

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It is an object of this invention to provide a signalling system and a method of signalling that will, at least partially, alleviate the abovementioned difficulties and disadvantages.

20 **Summary of the Invention**

In accordance with this invention there is provided a signalling system, comprising:

- a gaming server operable under program control to regulate progress of a multiplayer game playable by a plurality of participating players, in accordance with game play decisions made, in turn, by each of the participating players;
- a user terminal associated with each player, each user terminal being operable by the player to access the gaming server along a communication channel and to make game play decisions; and
- a display facility associated with each user terminal, the display facility being responsive to communication from the gaming server to display to the player an indicium representative of a status of that player's participation in the game, the status being a pending state where the player is next in turn to

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make a game play decision, and a completed state where the player is not next in turn to make a game play decision.

Further features of the invention provide for the display facility to be responsive to communication from the gaming server to display a plurality of indicia, each indicium being representative of a status of the participation in the game of a corresponding one of the plurality of the participating players, for the display facility to be a display monitor associated with the user terminal and for the indicium to be a graphic icon displayable on the display monitor, for the graphic icon to represent the status of the player's participation in the game by a colour, and for the pending state to be represented by a red colour and for the completed state to be represented by a green colour.

Still further features of the invention provide for each indicium to have a corresponding identification means for identifying a participating player whose participation status in the game is indicated by that indicium, and for the identification means to be a nameplate.

Yet further features of the invention provide for the multiplayer game to be a casino game, for the casino game to be an online casino game, and for the online casino game to be a game of poker.

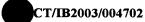
The invention extends to a method of signalling, comprising the steps of: regulating progress of a multiplayer game playable by a plurality of participating players, in accordance with game play decisions made, in turn, by each of the participating players;

accessing the gaming server from a user terminal, along a communication channel: and

displaying, on a display facility associated with the user terminal, an indicium representative of a status of a player's participation in the game, the status being a pending state where the player is next in turn to make a game play decision, and a completed state where the player is not next in turn to make a game play decision.

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There is further provided for displaying on the display facility a plurality of indicia, each indicium being representative of a status of the participation in the game of a corresponding one of the plurality of participating players, for displaying any indicium as a graphic icon on a display monitor, for representing the status of the player's participation in the game by means of a colour of the graphic icon, and for representing the pending state by means of a red colour and for representing the completed state by means of a green colour.

There is still further provided for identifying the indicium of each player to uniquely identify that participating player, and for identifying the indicium by means of a corresponding nameplate.

15 Brief Description of the Drawings

One embodiment of the invention is described below, by way of example only, and with reference to the abovementioned drawings, in which:

Figure 1 is a schematic representation of a signalling system, according to the invention:

Figure 2 is a schematic representation of a Graphical User Interface of the signalling system of Figure 1; and

Figure 3 is an example of the Graphical User Interface of Figure 2.

Detailed Description of the Invention

This embodiment of the invention will be described with particular reference to a system for playing a game of multiplayer poker. It is to be clearly understood, however, that the scope of the invention is not limited to this particular application.

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Referring to Figure 1, a system for playing a game of online poker is indicated generally by reference numeral (1). The system (1) includes a gaming server (2), and a portal (not shown) in the form of an online casino website on the World Wide Web of the Internet. In this embodiment, the online casino website (not shown) is hosted on a casino web server (3). The casino website (not shown) is accessible by a plurality of poker players (not shown), each one through a separate user terminal (4) in the form of an Internet-enabled computer workstation having a display monitor (5) and an associated pointing device (20), such as a mouse or, alternatively, a touchpad. In this embodiment, casino website is shown as being accessible by players at two different computer workstations (4) logically connected thereto. It will be appreciated by those skilled in the art that such an on-line casino website can be logically connected to any desired number of such computer workstations (4) simultaneously, which number is physically limited only by considerations of processing power and Internet access bandwidth.

The gaming server (2), the online casino web server (3) hosting the online casino website, and the computer workstations (4) are capable of communicating with each other by means of an open communication channel that is, in this embodiment, the World Wide Web of the Internet. Although the World Wide Web of the Internet is a single packet-switched communication network, it is represented in Figure 1, for convenience, as separate logical communication channels (6, 7 and 8).

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The gaming server (2) operates under control of a stored program capable of enabling a predetermined maximum number, say 8 or 10, of players to play an instance of the game of online poker. When the number of players reaches this predetermined maximum number, the stored program causes a further instance of the game to be initiated, the new instance of the game also being capable of accommodating a further 8 or 10 players. In this manner the gaming server (2) is capable, under stored program control, to spawn as many separate instances of the game as required in order to accommodate a pool of players who desire to play the game, in groups of a maximum of 8.

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Each instance of the game spawned in this manner is treated as totally independent of the other instances. For convenience, this specification will only discuss a single instance of the game.

The online casino website enables a player desiring to join the game to request, by means of one of the computer workstations (4), participation in the game and, once admitted to an instance of the game, to place a wager on a turn of that instance of the game. Each participating player is presented with an identical graphical user interface (GUI) on his respective computer workstation (4) by the stored program in the gaming server (2). The GUI presents to the player a suitable display of a poker game (not shown) with appropriate icons that enable the player to make his own desired game play decisions and to monitor the progress of the game by viewing the game play decisions of the other participating players in the same instance of the game. The GUI includes a signalling system (10), as indicated in Figures 2 and 3, that is operable to alert the player when he, or any other player participating in the instance of the game, is due to make a game play decision.

In order to describe the operation of the signalling system (10), the rules of the game of multiplayer poker will now be described briefly. In a turn of the game, one of the players assumes the role of a dealer and deals five cards (an "initial hand"), from a conventional deck of 52 playing cards, to each participating player, inclusive of the dealer. The playing cards in the initial hand are dealt face down to each player who does not, at this stage of the game, disclose the playing cards that have been dealt to him.

Each one of the players is then required to decide, in turn, whether to continue with his participation in the turn of the game (that is, to "play"), or to terminate his participation in the turn (that is, to "fold"), as a function of the playing cards in his initial hand. Any player who decides to fold does not participate any longer in the turn of the game. The first player to decide to play is required to make an opening wager on the turn of the game. Any other player who subsequently also decides to play in the turn of the game is required to match or to increase ("raise") the size of the opening wager. When the size of the

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opening wager is raised, players who have made or matched prior opening wagers are required to top up their wagers to match the size of the largest opening wager made by any player who has elected to play in the turn of the game. This phase of the turn of the game continues until every player who desires to play in that turn has wagered an equal amount.

All the wagers made by each of the players are accumulated in a single jackpot ("the pot").

At this stage of the game, each player who has decided to play may, in turn, then decide to replace (that is, to "discard") any one or more of the five cards in his initial hand. Once a player has decided which, if any, of the five cards to discard, the player may then "draw", in which the discards of the initial hand are replaced by an equivalent number of further cards dealt by the dealer from the deck of playing cards. This phase of the game will be referred to, for convenience, as the drawing phase. If the player discards all of the cards in his initial hand, he is then effectively dealt an entirely new hand of five cards at the drawing phase. On the other hand, if a particular player retains ("holds") all of the five cards in his initial hand, he does not participate in the drawing phase, but still continues to play in the turn of the game.

Once the drawing phase has been completed, each player evaluates the five cards that he has accumulated in the manner described above in order to determine whether they contain any one of a number of desirable combinations of playing cards. The desirability of any combination of playing cards is inversely proportional to the probability of being dealt that particular combination of cards. The various desirable combinations of playing cards are not relevant to the invention and will not be described here in detail.

After completion of the drawing phase of the turn of the game and evaluation of the playing cards, the players who have previously decided to play in the particular turn of the game are then again required to decide, in turn, as a function of the playing cards they have accumulated in the manner described above, whether to continue playing or to fold. Any player who decides to fold

does not participate any further in the particular turn of the game and forfeits all the wagers he has made in that turn. The first player to make an opening wager, if he decides to play, may make a supplementary wager on the turn of the game. Any other player who subsequently also decides to play is required to match or to raise the size of the supplementary wager. Players who have previously made supplementary wagers are required to top up their supplementary wagers to match the size of the largest supplementary wager. This phase of the particular turn of the game continues until every player who had decided to continue playing has made an equivalent supplementary wager. This stage of the game will be referred to, for convenience, as the supplementary wagering stage.

The supplementary wagers made by each of the players who have decided to continue playing in the particular turn of the game are added to the pot.

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Once the supplementary wagering stage of the turn of the game has been completed, the players who remain in the game reveal the playing cards in their hands. The hands are compared, and the player with the highest-ranking desirable hand wins the accumulated jackpot.

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The rules of the game of poker have been described with particular reference to a variation of the game called "draw poker". There are many other variations of the game of poker, the rules of which are not germane to the essence of the invention and that will not, for this reason, be described here in detail. The invention, however, also applies equally to these variations.

It will be appreciated by those skilled in the art that each participating player in the game is required to make a number of different game play decisions during each turn of the game. The possible game play decisions include a decision as to whether to play or to fold, a decision as to an appropriate size of an opening wager, a decision as to whether or not to raise a previous wager by another participating player, and an appropriate size of a raise wager. It will be further appreciated that, due to the sequential nature of the game, any player who delays in making a required game play decision will

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hold up the progress of the game. As the participating players are remote from each other and not in direct communication with each other, it is necessary to provide a mechanism to alert each one of the participating players of an outstanding game play decision and to allow them to follow the progress of the game.

The signalling system (10) consists of a plurality of indicia (11) in the form of icons displayed on the GUI of each player, a separate icon for each participating player in the instance of the game. Each icon (11) is in the shape of a rectangular outline and represents the status of the corresponding player's participation in the game. The status is represented by means of a colour of the rectangular outline. The status of the player's participation in the game is a pending state when the player has an outstanding game play decision to make, and a completed state where the player has no outstanding game play decision to make. The pending state is represented by a rectangular outline in red, while the completed state is displayed by a green rectangular outline.

Each icon (11) also displays information about the corresponding player's last game play decision in the turn of the game. In addition, each player's bankroll is displayed within the borders of the rectangular outline of that player's icon (11). Further, any particular player whose turn it is to make a game play decision is prompted to do so by means of a slider bar displayed within the borders of the rectangular outline of that player's icon (11). The slider bar display, which is well known in the art, and which will not be described here in detail, provides an indication to the player as to how much time remains within which to make the required game play decisions and avoid occurrence of a time out event. Information is displayed within the borders of the rectangular outline of the icon (11) as white text against a blue background. Each participating player is identified by a corresponding name (12) that can be the player's real name or a pseudonym selected by the player upon entering the instance of the game. The player's actual or assumed name is displayed within the borders of the rectangular outline of that player's icon (11).



Where the instance of the game is being played with one or more unoccupied playing positions, each such position is indicated on the GUI by appropriate black text against a white background, without a corresponding rectangular outline (11).

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The GUI includes a scrollable window (not shown) in which a chronological log of each game event and each game play decision by the players in the current and previous turns of the game is displayed.

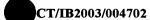
It will be appreciated by those skilled in the art that the system (1) provides a facility for pooling players from the casino website (not shown) to enable them to participate in the game of poker. Prior art systems which enable players to play multi-player games such as poker operate within the context of a single online casino and establish these games by utilising players from that casino only. This has undesirable consequences as the pool of potential players is limited to clients of that particular casino, and a considerable time may be required for a sufficient number of players to be gathered before a game can get underway, leading to player frustration and a high player attrition rate. The present invention can also establish a game with players drawn from a multiplicity of different online casinos, that is, from a larger pool of potential players, leading to the establishment of a poker game in a reduced time. Further, an established instance of a poker game according to the invention is likely to last longer than a game established under a prior art system, as there is a larger pool of available players from which replacements can be drawn to replace participating players who leave the instance of the game.

The technical problem solved by the invention is that of providing a means for efficient information exchange between players in a multiplayer online game. The signalling system encourages players to minimise delay, thereby ensuring that the multiplayer online game progresses without undue delay. Any participating player is able to see at a glance when there is an outstanding game play decision that he is required to make. The invention also assists participating players in the game to maintain an overview of game play decisions made by each of the players in any turn of the game.

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Numerous modifications are possible to this invention without departing from the scope of the invention. In particular, the signalling system (10) may be applied to any multiplayer online game, whether requiring players to place wagers on the game, or not. Examples of such games are backgammon, bridge, gin rummy, canasta, whist or mah-jong. Further, a different form of icon (4) other than a rectangular outline may be used to provide notification to a player. Additionally, a different characteristic of the icon (4), other than colour, such as size or shape, can be used to indicate the pending and completed states of the player's participation in the turn of the game.

The invention therefore provides a novel system and method for inter-player signalling in an online multiplayer game.



<u>Claims</u>

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- 1. A signalling system, comprising:
- a gaming server operable under program control to regulate progress of a multiplayer game playable by a plurality of participating players, in accordance with game play decisions made, in turn, by each of the participating players;
 - a user terminal associated with each player, each user terminal being operable by the player to access the gaming server along a communication channel and to make game play decisions; and a display facility associated with each user terminal, the display facility being responsive to communication from the gaming server to display to the player an indicium representative of a status of that player's participation in the game, the status being a pending state where the player is next in turn to make a game play decision, and a completed state where the player is not next in turn to make a game play decision.
- A signalling system as claimed in claim 1 in which for the display facility
 is responsive to communication from the gaming server to display a plurality of indicia, each indicium being representative of a status of the participation in the game of a corresponding one of the plurality of the participating players.
- 25 3. A signalling system as claimed in either one of claims 1 or 2 in which the display facility is a display monitor associated with the user terminal, and any indicium is a graphic icon displayable on the display monitor.
- 4. A signalling system as claimed in claim 3 in which the graphic icon represents the status of the player's participation in the game by a colour of the graphic icon

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- 5. A signalling system as claimed in claim 4 in which the pending state is represented by a red colour of the graphic icon, and the completed state is represented by a green colour of the graphic icon.
- 6. A signalling system as claimed in any one of the preceding claims in which each indicium has a corresponding identification means for identifying a participating player whose participation status in the game is indicated by that indicium.
- 7. A signalling system as claimed in claim 6 in which the identification means is a corresponding nameplate.
 - 8. A signalling system as claimed in any one of the preceding claims in which the multiplayer game is a game of online poker.
 - 9. A method of signalling, comprising the steps of: regulating progress of a multiplayer game playable by a plurality of participating players, in accordance with game play decisions made, in turn, by each of the participating players;
- accessing a gaming server from a user terminal, along a communication channel; and displaying, on a display facility associated with the user terminal, an indicium representative of a status of a player's participation in the game, the status being a pending state where the player is next in turn to make a game play decision, and a completed state where the player

is not next in turn to make a game play decision.

- 10. A method as claimed in claim 9 in which a plurality of indicia are displayed on the display facility, each indicium being representative of a status of the participation in the game of a corresponding one of the plurality of participating players.
- 11. A method as claimed in either one of claims 9 or 10 in which any indicium is displayed as a graphic icon on a display monitor.

12. A method as claimed in claim 11 in which the status of the player's participation in the game is represented by means of a colour of the graphic icon.

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13. A method as claimed in claim 12 in which the pending state is represented by means of a red colour of the graphic icon and the completed state is represented by means of a green colour of the graphic icon.

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- 14. A method as claimed in any one of claims 9 to 13 that includes the further step of identifying the indicium of each player to provide an identification of that participating player.
- 15 15. A method as claimed in claim 14 in which the indicium is identified by means of a corresponding nameplate.

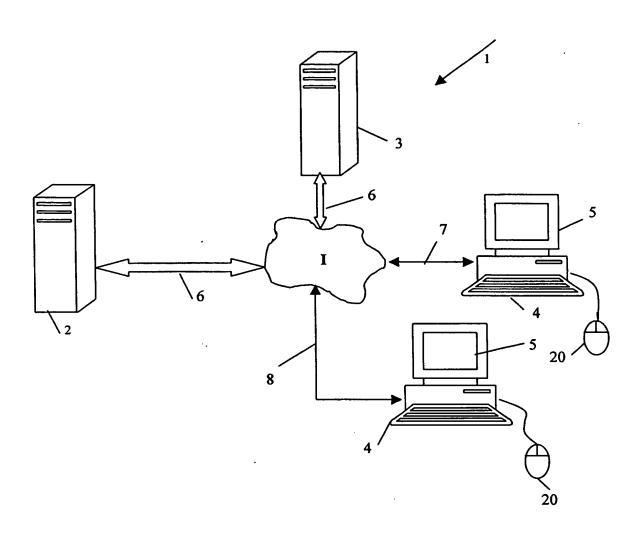


Figure 1

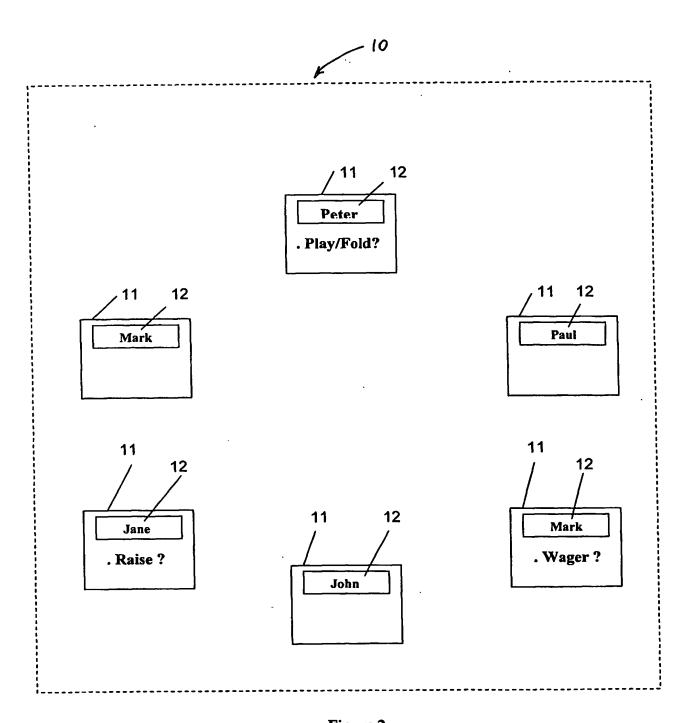


Figure 2

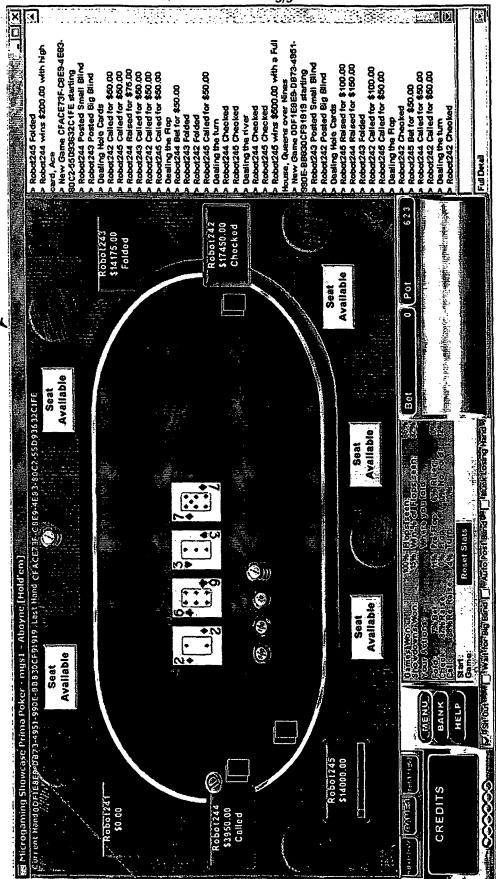


Figure 3



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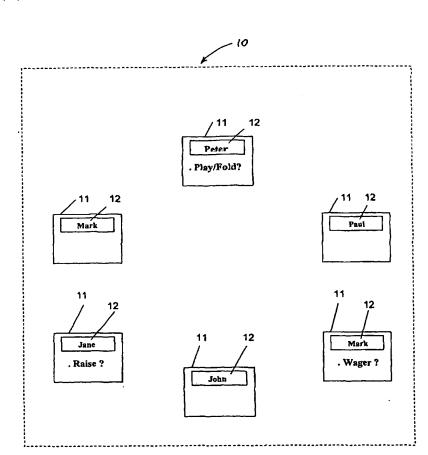
25 October 2002 (25.10.2002) GB

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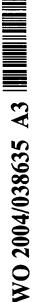
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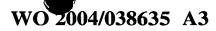
[Continued on next page]

(54) Title: SIGNALLING



(57) Abstract: A signalling system 10 includes a gaming server operable under program control to regulate the progress of a multiplayer 12 game in accordance with game play decisions made, in turn, by each of the participating players, a user terminal for each player, and a display monitor associated with each user terminal. Each user terminal is operable by a player to access the gaming server along a communication channel and to make game play decisions. Each display monitor is responsive to communication from the gaming server to display to a player an indicium, in the form of a graphic icon, representing a status of that player's participation in the game.







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PCT/IB03/04702

A. CLASSIFICATION OF SUBJECT MATTER							
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According to International Patent Classification (IPC) or to both national classification and IPC							
B. FIELDS SEARCHED							
Minimum documentation searched (classification system followed by	classification symbols)						
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EAST							
Electronic data base consulted during the international search (name of	of data hase and, where practicable, search terms used)						
Electronic data base consumed during the fine mational search (name of	of data base and, where practicable, scaren terms asser,						
	·						
C. DOCUMENTS CONSIDERED TO BE RELEVANT							
C. DOCUMENTS CONSIDERED TO BE RELEVANT Category * Citation of document, with indication, where app	propriate, of the relevant passages Relevant to claim No.						
X US 6,554,707 (SINCLAIR et al) 29 April 2003, abst							
65, col 7 lines 10-22, col 12 lines 47-67, col 13 lines							
	`						
	· ·						
. 1							
Further documents are listed in the continuation of Box C.	See patent family annex.						
Special categories of cited documents:	"T" later document published after the international filing date or priority						
"A" document defining the general state of the art which is not considered to be	date and not in conflict with the application but cited to understand the principle or theory underlying the invention						
of particular relevance	• • • • • •						
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step						
	when the document is taken alone						
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as	"Y" document of particular relevance; the claimed invention cannot be						
specified)	considered to involve an inventive step when the document is combined with one or more other such documents, such combination						
"O" document referring to an oral disclosure, use, exhibition or other means	being obvious to a person skilled in the art						
"P" document published prior to the international filing date but later than the	"&" document member of the same patent family						
priority date claimed							
Date of the actual completion of the international search	Date of mailing of the international search report						
21 June 2004 (21.06.2004)	20 JUL 2004						
Name and mailing address of the ISA/US							
Mail Stop PCT, Attn: ISA/US							
,							
P.O. Box 1450 Alexandria, Virginia 22313-1450 Telephone No. (703) 305-4700							
Facsimile No. (703)305-3230							
Form PCT/ISA/210 (second sheet) (July 1998)							



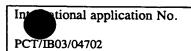
INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicar P15299I	ant's or agent's file reference	FOR FURTHER ACTION	see Notific Report (Fo	cation of Transmittal of International Search orm PCT/ISA/220) as well as, where applicable,			
	tional application No. 803/04702	International filing date (day/mont 23 October 2003 (23.10.2003)		(Earliest) Priority Date (day/month/year) 25 October 2002 (25.10.2002)			
Applicant WATERLEAF LIMITED							
This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau. This international search report consists of a total of sheets.							
It is also accompanied by a copy of each prior art document cited in this report.							
 Basis of the Report a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. 							
the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:							
	contained in the internation	onal application in written form.					
	filed together with the into	ernational application in computer read	dable form.				
	furnished subsequently to	this Authority in written form.					
	furnished subsequently to this Authority in computer readable form.						
	the statement that the subs	sequently furnished written sequence li s filed has been furnished.		not go beyond the disclosure in the			
	the statement that the info been furnished.	rmation recorded in computer readable	e form is id	dentical to the written sequence listing has			
2.	Certain claims were four	nd unsearchable (See Box I).		•			
3.	Unity of invention is lacking (See Box II).						
4. Wi	ith regard to the title,			·			
	_	the text is approved as submitted by the applicant.					
	the text has been establish	ed by this Authority to read as follows	;:				
5. Wi	ith regard to the abstract,						
	the text is approved as submitted by the applicant.						
	the text has been establish within one month from the	ed, according to Rule 38.2(b), by this e date of mailing of this international s	Authority a	as it appears in Box III. The applicant may, rt, submit comments to this Authority.			
6. Th	he figure of the drawings to be p	published with the abstract is Figure No	o. 2				
	as suggested by the applic		- · <u>-</u>	None of the figures			
	because the applicant faile	ed to suggest a figure.	•				
	because this figure better	characterizes the invention.					

Form PCT/ISA/210 (first sheet) (July 1998)





Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

Form PCT/ISA/210 (continuation of first sheet(2)) (July 1998)

A signaling system 10 includes a gaming server operable under program control to regulate the progress of a multiplayer 12 game in accordance with game play decisions made, in turn, by each of the participating players, a user terminal for each player, and a display monitor associated with each user terminal. Each user terminal is operable by a player to access the gaming server along a communication channel and to make game play decisions. Each display monitor is responsive to communication from the gaming server to display to a player an indicium, in the form of a graphic icon, representing a status of that player's participation in the game.						



A. C	CLASSIFICATION OF SUBJECT MATTER					
IPC(7)						
. US CI						
Accordin	ng to International Patent Classification (IPC) or to both n	ational classification and IPC				
B. F	TELDS SEARCHED					
Minimu	- domination and 171 days					
Minimum documentation searched (classification system followed by classification symbols) U.S.: 370/389, 384 385; 46336, 37, 39, 40, 41, 42						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched EAST						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)						
C. D	OCHMENTS CONSIDERED TO BE DEVENDED					
	OCUMENTS CONSIDERED TO BE RELEVANT					
Category		appropriate, of the relevant passages	Relevant to claim No.			
Х	US 6,554,707 (SINCLAIR et al) 29 April 2003, al 65, col 7 lines 10-22, col 12 lines 47-67, col 13 lin	1-2, 9-10				
Fur	ther documents are listed in the continuation of Box C.	See patent family annex.				
*	Special categories of cited documents:		national filing date or priority			
"A" docu	ument defining the general state of the art which is not considered to be articular relevance	the general state of the art which is not considered to be date and not in conflict with the application but cited to understand the principle or theory underlying the invention				
"E" earlie	er application or patent published on or after the international filing date	"X" document of particular relevance; the c considered novel or cannot be considered novel or cannot be considered.	laimed invention cannot be ed to involve an inventive step			
estab	rment which may throw doubts on priority claim(s) or which is cited to blish the publication date of another citation or other special reason (as ified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is				
	ument referring to an oral disclosure, use, exhibition or other means	combined with one or more other such documents, such combination being obvious to a person skilled in the art				
prior	ment published prior to the international filing date but later than the ity date claimed	"&" document member of the same patent fa	amily			
		Date of mailing of the international search 20 JUL 2004	h report			
21 June 2004 (21.06.2004)			<i>y</i>			
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US		Authorized officer Douglas Olms	4			
	Commissioner for Patents	Douglas Olms L here	/			
	P.O. Box 1450					
	Alexandria, Virginia 22313-1450 No. (703)305-3230	Telephone No. (703) 305-4700				

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

- 1. [Where originally there were 48 claims and after amendment of some claims there are 51]: "Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
- [Where originally there were 15 claims and after amendment of all claims there are 11]:
 "Claims 1 to 15 replaced by amended claims 1 to 11."
- [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
 "Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or "Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
- 4. [Where various kinds of amendments are made]:
 "Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under Article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see the PCT Applicant's Guide, Volume II.

NOTESTO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under Article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article," "Rule" and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Preliminary Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When? Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How? Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.